

In re Patent Application of:
HOLLAND ET AL.
Serial No. 10/619,327
Filing Date: July 14, 2003

REMARKS

Claims 1, 2, 5, and 8 remain in this application. Claims 3, 4, 6, 7, 9 and 10 are cancelled. Claims 1, 5 and 8 have been amended. Claim 2 has been previously presented.

Applicants thank the Examiner for the detailed study of this application and prior art and address the various claim inconsistencies and informalities and rejection of claims as obvious over U.S. Patent No. 6,647,264 to Sasamoto in view of U.S. Patent No. 6,741,696 to Moriyama, and newly cited U.S. Patent No. 6,680,942 to Mead et al. (hereinafter "Mead"). Sasamoto and Moriyama had been previously addressed extensively in the previous responses and the previously filed Pre-Appeal Brief Request for Review. Sasamoto and Moriyama are addressed again in detail below.

Applicants contend that the present case is in condition for allowance based upon the Amendment presented with this response.

Applicants have cancelled dependent claims 3, 6 and 9 as indicated by the Examiner as being claims of improper dependent form for failing to further limit the subject matter of a previous claim. Applicants consider that those claims were not of improper dependent form, but have cancelled those claims for prosecution efficiency and because there may have been some misunderstanding if third nodes are different from other nodes, wherein both the third nodes and other nodes ignore the query message when the node is not coupled to the called device.

Also, each of the independent claims have been amended to recite that at each node, the method further comprises examining the local accounts to determine if the queried target as the requested extension is connected to the respective node.

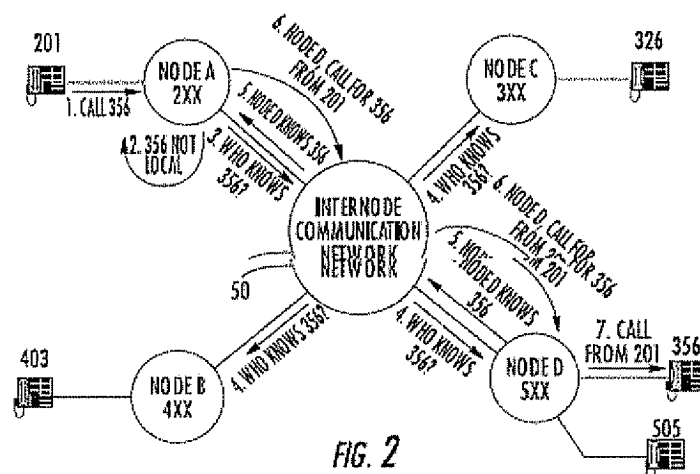
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This recitation provides the missing essential step requested by the Examiner. Also, the claim language has been redrafted such that at a second node to which the called device is coupled, transmitting a reply message to the first node indicating that the second node is coupled to the called device and has the queried target corresponding to the requested extension while all other nodes ignore the query message and do not transmit a reply message indicative that all other nodes do not have the queried target as the requested extension for locating or routing. Thus, there is no double negative with this new claim language.

Also, the claim recitation regarding "as a queried target" now includes proper antecedent basis because the recitation is added at the beginning of the claim with the called device as a queried target corresponding to the requested extension.

Thus, the independent claims have been corrected and include the omitted essential steps as requested by the Examiner.

For the Examiner's reference, FIG. 2 from the instant application is reproduced below:



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The claimed network and method overcome the drawbacks in a communications system such as a cooperative telephone system, e.g., a Private Branch Exchange (PBX), in which unified dialing plans have resource node memberships that change. Changes in the dialing plan may lead to out-of-date routing information resulting in misrouted calls, which leads to user frustration while the information is being updated. Number portability is a problem and multiple copies of routing information create a greater chance for errors.

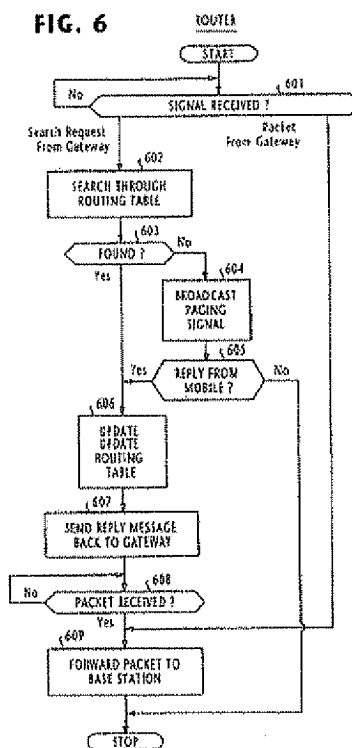
In the claimed subject matter, each node has a copy of the dialing plan only for its node as a (PBX) platform and no other nodes. Each node is operative to service multiple communication devices coupled to the respective node through the respective separate dialing plan for a node. Each communication device has an extension within a respective dialing plan for a node that is used in the course of routing a call from a calling communication device to a called communication device. The method routes a call from the called communication device at a first node to a called device as a queried target corresponding to a requested extension at another node.

A query message is transmitted from the first node to all other nodes of the network. This query message is operative to determine whether a respective node receives the query message and is coupled to the calling device as a query target. At each node, the system examines its local accounts for the queried target as the requested extension. At a second node to which the call device is coupled, a reply message is transmitted to the first node indicating that the second node is coupled to the called device and has the queried target corresponding to the requested extension while all other nodes ignore the query

message and do not transmit a reply message indicative that the all other nodes do not have the queried target as the requested extension for locating or routing.

In response to receipt of the reply message by the first node, the call is routed from the first node to the second node so that the second node may complete the connection of the call to the call device without requiring a copy of dialing plans for all other nodes.

For the Examiner's reference, FIG. 6 of Sasamoto is reproduced below:



The Examiner uses FIG. 6 of Sasamoto to argue how routers would not send a reply message to a gateway (first node) by bypassing steps 607-609 after step 605 and the routers do not reply to the search request and ignore the message.

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Sasamoto is directed to solving a different technical problem, i.e., that of locating a mobile communications device, as compared to the claimed subject matter that is directed to overcoming the problem where resource node memberships change and the proper node is to be located that has the connected device and where each node has a copy of the dialing plan only for its node as a PBX platform and no other nodes.

In the network of the instant application, the queried target is connected to a node, but it has to be determined which node. Sasamoto, on the other hand, may not have any device connected to a router since the Sasamoto device to be located is not in the search area of the routers and networks.

In Sasamoto, if there is no reply message from any of the routers, the process stops as taught at column 5 starting at line 66 and continuing through column 6 at line 30, which is reproduced below:

"In FIG. 6, the router controller 206 responds to the search request message from the gateway 114 at step 601 to proceed to step 602 to make a search through the routing table for location data of the destination mobile station specified by the request message. If there is none (step 603), the routine proceeds to step 604 to broadcast a paging signal to all of its base stations and waits for a reply message (step 605). If no reply is received within a predefined time interval, the controller proceeds to the end of the routine.

If a reply message is returned from the destination mobile station via one of its base stations, the controller proceeds from step 605 to step 606 to update the routing table 208 with routing data including the IP address of the destination mobile station, the telephone number of the destination mobile station and the address of the base station, in the coverage area of which the mobile station is currently located.

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If the appropriate location data of the specified mobile station is found in the routing table 208, the controller proceeds from step 603 to step 606 to update the routing table.

At step 607, the controller 206 sends a reply message back to the gateway 114 to inform it of the routing data of the destination mobile station and the source destination contained in the first packet. Then, the router controller 206 waits for the first packet from the gateway (step 608). When the controller receives the first packet, it proceeds to step 609 to control the routing circuit 205 according to the data stored in the routing table 208 and forwards the first packet to the destination via the routing circuit 205, and terminates the routine."

This quote and flowchart of FIG. 6 show the substantial differences between the claimed network and method and that of Sasamoto.

In Sasamoto, if no reply is received within a predefined time interval, the controller proceeds to the end of the routine. This indicates that a communications device as called cannot be located and could be out of coverage.

The claimed network and method is opposite because there will be a reply message from some node. There is no "coverage" problem and the private branch exchanges may have a resource node membership that changed and an extension may have moved from one node to another and caused a routing problem. The node will be located in the claimed network and method because it is connected to a PBX. There is a specific node to be located and it will have a reply while all other nodes ignore the query message and do not transmit a reply message indicative that the other nodes do not have the queried target as the requested extension for locating or routing.

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In Sasamoto, no reply indicates that the device cannot be found such as being out of coverage and the process stops as indicated in the FIG. 6 flowchart. In the claimed network and method, no reply from a node indicates that those particular nodes do not have a queried target as the requested extension for locating and routing while the other node that did reply has the queried target corresponding to the requested extension. This is clearly set forth in the claims as presented in this Amendment in this response.

Thus, Sasamoto teaches opposite from the claimed system. One skilled in the art would not be motivated to even look to Sasamoto to solve the technical problem as solved by the claimed network and method.

The purpose of the paging signals by all nodes as routers in Sasamoto act similar to "redundancy" because they are functioning to track fast moving data terminals and perform fast handovers, and thus, solve the technical problem in Sasamoto of reducing the delay involved in locating a destination mobile data terminal when that data terminal is moving at high speeds and necessary to perform the fast hand-over operations as indicated before. Broadcast messages from each node are used by Sasamoto for storing routing data such as at each node as a router as explained in column 6 starting at line 53 and continuing through column 7 at line 5.

Muriyama is directed to a number of PBX's as used in Automatic Call Distribution (ACD) systems and there is no dynamic registration or assignment of individual stations within their network's automatic call distribution stations as a PBX. Muriyama increases efficiency of the automatic call distributing system that can be extended in scale and distributes and controls

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incoming calls from a public line network to extension lines with extension groups using an Automatic Call Distribution Processor (ACDP) and database settings with different PBX's such as shown in FIGS. 3 and 4 of Muriyama. Muriyama teaches what is well known that each PBX can have a database for extensions. One skilled in the art would not be motivated to look to the device location system in Sasamoto with the PBX database of Muriyama.

As to the newly cited Mead, it overcomes the technical problem as noted in its column 2 when directory databases cached in each node broadcast to find the same end station and there is a problem with considerable network bandwidth for redundant searches. Indeed, Mead appears to be teaching away from any combination with Sasamoto since Sasamoto has a constant transmission of paging signals acting similar to a "redundancy" because it is directed to the tracking of fast moving data terminals and performing fast hand-overs while Mead teaches away from any type of network bandwidth usage and redundant searching. Mead routes a data packet using the routers, interrogates databases on the server, searches by the source router, and receives source router information to transmit encapsulated packets.

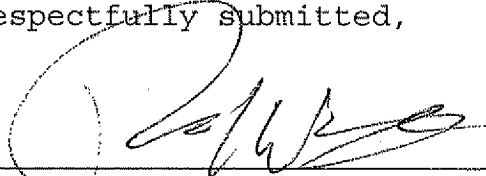
One skilled in the art would not be motivated to look to Sasamoto, Muriyama and Mead either singularly or in combination to form the claimed network and method as set forth in this Amendment.

Applicants contend that the present case in condition for allowance and respectfully requests that the Examiner issue a Notice of Allowance and issue fee due.

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If the Examiner has any questions or suggestions for placing the case in condition for allowance, the undersigned attorney would appreciate a telephone call.

Respectfully submitted,



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